

What is claimed is:

1. A database building method for multimedia contents, the method comprising the steps of:

(a) accessing an arbitrary site providing multimedia contents through a telecommunications network;

5 (b) calling multimedia contents in by spidering the site; and

(c) classifying the multimedia contents data according to stored addresses and storing the multimedia contents data in a predetermined database.

2. The database building method of claim 1, wherein the multimedia contents data is image data.

3. The database building method of claim 1, wherein the stored addresses are universal resource locators (URLs).

4. The database building method of claim 1, wherein the arbitrary site is selected between a retrieval site or a portal site.

5. The database building method of claim 4, wherein step (b) further comprises the sub-steps of:

(b-1) inputting a search word;

(b-2) parsing texts corresponding to file names of multimedia contents  
5 or texts corresponding to sub-categories in hyper text markup language

(HTML) web page data having retrieved results from the input search word;  
and

(b-3) calling multimedia contents data having addresses corresponding  
to the parsed texts.

6. The database building method of claim 5, before step (b-3)  
further comprising:

(p-b-3-1) visiting a corresponding category when the texts  
corresponding to the sub-category are parsed in a loaded HTML web page  
5 data.

7. The database building method of claim 5, wherein in the step  
(b-2), keywords representing characteristics of the texts corresponding to the  
sub-categories together with the texts corresponding to the file names of the  
multimedia contents are parsed in a loaded HTML web page data.

8. The database building method of claim 5, wherein the called  
multimedia contents data is called image data.

9. The database building method of claim 8, further comprising  
the step of:

(b-4) after the step (b-3) filtering noise images out of the called image  
data to get a filtered image.

10. The database building method of claim 9, wherein step (b-4) further comprises the sub-steps of:

(b-4-1) determining whether or not a pixel number of the filtered image is equal to or greater than a predetermined threshold value; and

5 (b-4-2) indexing the corresponding image when the pixel number of the filtered image is equal to or greater than the predetermined threshold value..

11. The database building method of claim 10, wherein the predetermined threshold value is 128.

12. The database building method of claim 4, wherein step (c) further comprises the sub-steps of:

(c-1) decreasing resolution of the called multimedia contents if the multimedia content is an image; and

5 (c-2) storing the image of step (c-1), of which resolution was decreased in step (c-1), in the predetermined database according to a categorized structure.

13. The database building method of claim 3, wherein in step (c), the URL of a web page storing the called multimedia contents data is stored in the predetermined database using the URL information.

14. The database building method of claim 7, wherein in step (c), at least one of URL information or keyword information together with

information on respective images is stored in respective predetermined databases so that keywords can be linked to individual images.

15. A database building method for multimedia contents, the method comprising the steps of:

(a) accessing an arbitrary site providing multimedia contents using a database having a categorized structure;

5 (b) calling multimedia contents data by spidering the arbitrary site; and

(c) storing the called multimedia contents data to a predetermined database, using the categorized structure.

16. The database building method of claim 15, wherein the called multimedia contents data is called image data.

17. The database building method of claim 15, wherein step (b) further comprises the sub-steps of:

(b-1) loading root HTML web page data from the arbitrary site;

5 (b-2) parsing texts corresponding to a sub-category or corresponding to file names of multimedia contents in the loaded HTML web page data; and

(b-3) calling multimedia contents data of addresses corresponding to the parsed texts.

18. The database building method of claim 17, further comprising the step of:

(p-b-3-1) before the step (b-3), visiting the corresponding sub-category of step (b-2) when texts corresponding to the sub-category are parsed in the loaded HTML web page data..

19. The database building method of claim 17, wherein in step (b-2), keywords representing characteristics of the texts corresponding to the sub-category or the texts corresponding to the file names of multimedia contents are parsed.

20. The database building method of claim 16 further comprising the step of:

(b-4) after step (b-3), filtering noise images out of the called image data to get filtered images.

21. The database building method of claim 20, wherein step (b-4) further comprises the sub-steps of:

(b-4-1) determining whether or not a pixel number of the filtered images is equal to or greater than a predetermined threshold value; and

(b-4-2) when the pixel number of the filtered images is equal to or greater than the predetermined threshold value, indexing the filtered images.

22. The database building method of claim 21, wherein the predetermined threshold value is 128.

23. The database building method of claim 16, wherein step (c) further comprises the sub-steps of:

(c-1) decreasing resolution of the called image data; and

(c-2) storing the called image data, of which resolution was decreased,  
5 in the predetermined database, using the categorized structure.

24. The database building method of claim 15, wherein in step (c), a URL of a web page storing the called multimedia contents data is stored in the predetermined database, using the categorized structure.

25. The database building method of claim 15, wherein in step (c), at least one of category information and keyword information, together with information on individual images, is stored in respective predetermined databases.

26. A database building apparatus for multimedia contents, comprising:

a web visitor for accessing an arbitrary site providing multimedia contents and calling the multimedia contents by spidering the arbitrary site;  
5 and

a database for classifying and storing the called multimedia contents using a categorized structure of a database of the arbitrary site or using addresses storing the called multimedia contents data.

27. The database building apparatus of claim 26, wherein the web visitor selects and visits an arbitrary retrieval site; loads root HTML web page data from the arbitrary retrieval site; visits a corresponding sub-category after texts corresponding to the sub-category are parsed in the loaded HTML web page data; and hierarchically visits other web pages or sites linked to the loaded HTML web page data and having addresses corresponding to the parsed texts corresponding to the sub-category.

28. The database building apparatus of claim 26, wherein the called multimedia contents is called image data.

29. The database building apparatus of claim 26, further comprising:

a filtering unit for filtering noise images out of the called image data to get filtered image.

30. The database building apparatus of claim 29, wherein the filtering unit determines whether or not a pixel number of the filtered image is equal to or greater than a predetermined threshold value, and when the pixel number of the filtered image is less than the predetermined threshold value, filters out the filtered image.

31. The database building apparatus of claim 28, wherein the parser parses keywords representing characteristics of a file name of the multimedia contents.

32. The database building apparatus of claim 30, further comprising:

a resolution decreasing unit for decreasing resolution of the filtered image.

33. The database building apparatus of claim 26, further comprising:

5 a control unit for outputting a control signal, wherein it is determined whether or not a number of indexed multimedia contents is equal to or greater than a predetermined number, and when the number of indexed multimedia contents is equal to or greater than the predetermined number, the control signal has a first predetermined logic level and when the number of indexed multimedia contents is less than the predetermined number, the control signal has a second predetermined logic level.

34. The database building apparatus of claim 33, wherein responding to the control signal having the first predetermined logic level, a parser finishes parsing, and responding to the control signal having the second predetermined logic level, the parser parses texts corresponding to the  
5 addresses of other web pages or sites linked to HTML web page data.

35. The database building apparatus of claim 26, wherein the database further comprises:

a first database for storing category information;



- a second database for storing URL information;
- 5 a third database for storing lists of keywords; and
- a fourth database for storing multimedia contents indexed by information stored in the first database, second database, and third database.

36 The database building apparatus of claim 35, wherein the fourth database stores information on URLs storing indexed multimedia contents using information stored in the first database, second database, and third database.

37. The database building apparatus of claim 35, wherein multimedia contents stored in the fourth database are thumbnails of original images which are generated by decreasing resolution of the original images.

38. A retrieval method for multimedia contents, the method comprising the steps of:

- (a) receiving keywords from a user corresponding to query images that a user wants to have searched; and
- 5 (b) retrieving images corresponding to keywords in a predetermined database and storing keywords corresponding to individual images together with a plurality of images.

39. The retrieval method of claim 38, wherein the multimedia contents are images, and further comprising the steps of:

- (c-1) displaying the retrieved images to the user;

(c-2) receiving information from the user on the retrieved images  
5 which are determined to be visually similar to the query images; and

(c-3) retrieving images in the database, of which at least one among  
color characteristics, texture characteristics, and shapes, are similar, among the  
images which are determined to be visually similar to the query images.

40. The retrieval method of claim 39, wherein the plurality of  
images are thumbnail images of original images which are obtained by  
decreasing resolution of the original images.

41. The retrieval method of claim 38, wherein the predetermined  
database stores the retrieved images by category, and step (b) further  
comprises the sub-steps of:

(b-1) retrieving a category representing the query image; and  
5 (b-2) retrieving images, of which at least one among color  
characteristics, texture characteristics, and shapes, are similar, among the  
images which are determined to be visually similar to the query images among  
the images in the retrieved category of step (b-1).

42. The retrieval method of claim 38, wherein the step (b) further  
comprises the sub-steps of:

(b-1) retrieving words identical to input keywords in an entire keyword  
database; and

5 (b-2) retrieving images corresponding to the input keywords by calling the images linked to the retrieved words from an image database, when the retrieved words are identical to the input keywords.

43. The retrieval method of claim 42, wherein after the sub-step (b-2) step (b) further comprises the sub-steps of:

(b-3) displaying a second predetermined number of selected images to the user, after selecting a first predetermined number of the retrieved images;

5 (b-4) receiving information from the user on query images which are determined to be visually similar to wanted images; and

(b-5) retrieving images in the image database, of which at least one among color characteristics, texture characteristics, and shapes, are similar, among the retrieved images which are determined to be visually similar to the  
10 query images.

44. The retrieval method of claim 38, wherein retrieval is limited to a category of the query images and neighboring categories.

45. The retrieval method of claim 38, wherein retrieval is limited to a URL of the query images and neighboring URLs.

46. A retrieval apparatus for multimedia contents comprising:

a database for storing a plurality of images and keywords corresponding to individual images; and

a retrieval unit for receiving input keywords corresponding to the  
5 query data from a user, and retrieving multimedia contents data corresponding  
to the keywords in the database.

47. The retrieval apparatus of claim 46, wherein the retrieval unit  
comprises:

a keyword retrieval unit for retrieving words from the database which  
are identical to the input keywords inputted by the user and retrieving  
5 multimedia contents corresponding to the input keywords, by calling  
multimedia contents linked to the retrieved words after the words identical to  
the input keywords are retrieved.

48. The retrieval apparatus of claim 46, wherein the multimedia  
contents are images, and the retrieval unit further comprises:

an image retrieval unit for receiving information on query images from  
the user, which are determined to be visually similar to wanted images, and  
5 retrieving images in the image database, of which at least one among color  
characteristics, texture characteristics, and shapes, are similar, among the  
retrieved images which are determined to be visually similar to the query  
images.

49. The retrieval apparatus of claim 46, wherein the multimedia  
contents are images and the retrieval apparatus further comprises:

a user interface for selecting images which the user wants to retrieve,  
in response to the user's input, and providing selection information;

5 a display image selecting unit for selecting a predetermined number of selected images; and

an image display unit for displaying the predetermined number of selected images to the user.

50. The retrieval apparatus of claim 46, wherein the database comprises at least one of:

an image database for storing individual images; and

5 a keyword database for storing keywords corresponding to individual images together with information on individual images stored in the image database.

51. The retrieval apparatus of claim 46, wherein the database comprises at least one of:

an image database for storing individual images; and

5 a category database for storing category information of data of a visiting web page together with information on individual images stored in the image database.